

REMARKS

Claims 1, 6-8 and 11-13 are pending in the present application. Claims 1, 7 and 12 have been amended.

Claim Rejections-35 U.S.C. 103

Claims 1, 6-8 and 11-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the Ishizuka et al. reference (U.S. Patent No. 6,617,801) in view of the Tsuji reference (U.S. Patent No. 6,545,652). This rejection, insofar as it may pertain to the presently pending claims, is traversed for the following reasons.

Initially, Applicant notes that claim 2 has been canceled by way of the Amendment dated February 27, 2007, and thus should not be grouped with this rejection.

The method of driving a display panel of claim 1 includes in combination among other features "variably controlling respective constant current values for driving the respective data lines, wherein said variably controlling the constant current values is implemented by individually comparing a voltage of each of the respective data lines as driven by the constant current values, with a reference voltage". Applicant respectfully submits that the method of driving a display panel of claim 1 would not have been obvious in view of the prior art as relied upon by the Examiner for at least the following reasons.

The Examiner has primarily relied upon Fig. 3 of the Ishizuka et al. reference.

However, as acknowledged by the Examiner, the Ishizuka et al. reference does not variably control constant current values by comparing a voltage of respective data lines with a reference voltage. In an effort to overcome this acknowledged deficiency of the Ishizuka et al. reference, the Examiner has secondarily relied upon the Tsuji reference, and has alleged that Fig. 2 of the Tsuji reference discloses variably controlling a constant current value by comparing a voltage of respective data lines with a reference voltage. The Examiner has asserted that it would have been obvious to incorporate the teachings of the Tsuji reference into the primarily relied upon Ishizuka et al. reference to make obvious the features of claim 1.

The Examiner has interpreted data comparators 34 in Fig. 2 of the Tsuji reference as meeting the comparing of claim 1. However, as described beginning in column 7, line 49 of the Tsuji reference, pixel level data are clocked into, and stored in, respective memory circuits 32 responsive to a latch clock signal. **The pixel level data** is subsequently compared in data comparators 34 with the value output from counter 33. When the illumination control signal is LOW, the output signals from data comparators 34 are input to constant current driver section 35, which controls the flow of constant current in each current line 6 for a driver pulse width interval corresponding to the pixel level data value.

Accordingly, comparators 34 in Fig. 2 of the Tsuji reference compare a counter output provided from counter 33 with **pixel level data stored in respective memory circuits 32.** Comparators 34 do not compare a voltage of each of respective data lines

as driven by constant current values with a reference voltage, as would be necessary to meet the features of claim 1. This should be readily clear since comparators 34 are not coupled to the constant current values as provided output from constant current section driver 35 via current lines 6. That is, comparators 34 compare pixel level data, not a voltage of respective data lines as driven by constant current values. The Tsuji reference thus does not overcome the above noted deficiencies of the primarily relied upon Ishizuka et al. reference. Applicant therefore respectfully submits that the method for driving a display panel of claim 1 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 1 and 6, is improper for at least these reasons.

With further regard to this rejection, the output of counter 33 in Fig. 2 of the Tsuji reference is not a reference voltage. That is, the output of counter 33 is a counted value that is variable. Comparators 34 of the Tsuji reference thus do not compare a voltage of a respective data line as driven by a constant current value with a reference voltage. The Tsuji reference thus fails to overcome the acknowledged deficiencies of the Ishizuka et al. reference. Applicant therefore respectfully submits that the method for driving a display panel of claim 1 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 1 and 6, is improper for at least these additional reasons.

The drive of a display panel of claim 7 includes in combination among other

features comparison means "respectively provided for each of the data lines and coupled to outputs of the respective variable current sources, each for outputting a control signal by comparing a reference voltage from a reference voltage generator with a potential of the respective data lines"; and current control means "for individually controlling respective current values flowing from the variable current sources to the data lines, based on respective results of comparison executed by the comparison means". Applicant respectfully submits that the prior art as relied upon by the Examiner does not make obvious these features.

Comparators 34 in Fig. 2 of the Tsuji reference cannot be interpreted as the comparison means of claim 7. As asserted previously, comparators 34 in Fig. 2 of the Tsuji reference compare pixel level data as stored in respective memory circuits 32 with a variable counter output provided by counter 33. Comparators 34 in Fig. 2 of the Tsuji reference are not coupled to outputs of respective variable current sources as would be necessary to meet the features of claim 7. That is, comparators 34 are not coupled to constant current as output by constant current driver section 34 along current lines 6.

Moreover, counter 33 in Fig. 2 of the Tsuji reference outputs a count value that is variable, and thus can not be interpreted as a reference voltage generator that outputs a reference voltage for comparison. The Tsuji reference as secondarily relied upon thus does not overcome the acknowledged deficiencies of the primarily relied upon Ishizuka et al. reference. Applicant therefore respectfully submits that the drive of a display panel of claim 7 would not have obvious in view of the prior art as relied upon by the

Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 7, 8 and 11, is improper for at least these reasons.

With further regard to this rejection, since comparators 34 are coupled to pixel level data as output from respective memory circuits 32, and are not coupled to constant current as provided by constant current driver section 35 via current line 6, comparators 34 clearly do not detect a decrease in current of respective variable current sources based on an increase in potential of respective data lines to control an increase of current of respective variable current sources, as would be necessary to meet the features of claim 8. Comparators 34 also do not detect an increase in current of respective variable current sources, as would be necessary to meet the still further features of claim 8. The Tsuji reference as relied upon thus does not overcome the deficiencies of the primarily relied upon Ishizuka et al. reference as would be necessary to make obvious the features of claim 8. Applicant therefore respectfully submits that claim 8 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together for at least these additional reasons.

The drive of a display panel of claim 12 includes in combination among other features comparators "respectively provided for each of the data lines and as coupled to outputs of the respective variable current sources, the comparators output control signals by comparing a reference voltage from a voltage regulator with a potential of the respective data lines"; and current control circuits "respectively provided for each of the data lines, the current control circuits individually control current values flowing from the

respective variable current sources to the data lines, based on respective results of comparison by the comparators”.

Applicant respectfully submits that the drive of a display panel of claim 12 would not have been obvious in view of the prior art as relied upon by the Examiner for at least somewhat similar reasons as set forth above with respect to claim 7. Particularly, comparators 34 in Fig. 2 of the Tsuji reference cannot be interpreted as the comparators of claim 12, because comparators 34 compare pixel level data stored in respective memory circuits 32 with a variable counter output provided by counter 33. Comparators 34 are not coupled to outputs of respective variable current sources, and do not compare a reference voltage from a voltage regulator with a potential of respective data lines as would be necessary to meet the features of claim 12. Applicant therefore respectfully submits that the drive of a display panel of claim 13 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection, insofar as it may pertain to claims 12 and 13, is improper for at least these reasons.

Applicant also respectfully submits that claim 13 would not have been obvious in view of the prior art as relied upon by the Examiner for at least somewhat similar reasons as set forth above with respect to claim 8.

Conclusion

The Examiner is respectfully requested to reconsider and withdraw the

corresponding rejection, and to pass the claims of the present application to issue, for at least the above reasons.

In the event that there are any outstanding matters remaining in the present application, please contact Andrew J. Telesz, Jr. (Reg. No. 33,581) at (571) 283-0720 in the Washington, D.C. area, to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment for any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0238.

Respectfully submitted,

VOLENTINE & WHITT, P.L.L.C.

A handwritten signature in black ink, appearing to read 'A. Telesz, Jr.', with a stylized flourish at the end.

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